3.3.1 Aquatic Group

Most of the information in Section 3.3.1 is reproduced or adapted from "Wisconsin's Biodiversity as a Management Issue" (Addis et al. 1995).

Wisconsin has a large and diverse aquatic resource that supports numerous species, communities, ecological processes, and human uses. In addition, many terrestrial species and processes are dependent on neighboring aquatic systems. The aquatic communities of Wisconsin include two Great Lakes, 14,000 inland lakes, and 33,000 miles of perennial streams and rivers. On a landscape scale, aquatic systems are an integral piece of an ecological continuum that includes upland terrestrial systems and transitional wetland areas. Aquatic communities also often serve as important recharge or discharge areas for groundwater.

Wisconsin's aquatic communities were shaped by the last glaciation. From about 25,000 to 11,000 years ago, ice covered most of what is now Wisconsin, precluding the existence of aquatic communities (Bailey and Smith 1981). As the glaciers retreated, aquatic organisms recolonized Wisconsin's waters. The glaciers receded and crustal rebound alternately opened and closed connections between drainages until about 6,000 years ago, when the current physical aquatic landscape emerged.

Wisconsin's Great Lakes shoreline on Lakes Superior and Michigan is approximately 1000 miles long. The Lake Michigan shoreline is also the site of Wisconsin's highest population density and the majority of its industrial base. State waters include 1.7 million acres of Lake Superior and 4.7 million acres of Lake Michigan including Green Bay. About a third of Wisconsin's 11 million land acres and a third of its river miles drain to these two lakes.

The aquatic resources of the state have been impacted and changed to varying degrees by human activities since the area was repopulated after the last glaciation. Major changes began in the period of logging and rapid agricultural development in the late 1800s and early 1900s and continued through the industrialization of the 1920s to the 1960s into the current era of residential and recreational development.

During the development of the Wisconsin Strategy for Wildlife Species of Greatest Conservation Need, eight primary community types were identified for inclusion within the Aquatic Group. These communities are listed below.

- Coldwater streams (Section 3.3.1.1, Page 3-397)
- Coolwater streams (Section 3.3.1.2, Page 3-403)
- Impoundments/reservoirs (Section 3.3.1.3, Page 3-409)
- Inland lakes (Section 3.3.1.4, Page 3-416)
- Lake Michigan (Section 3.3.1.5, Page 3-424)
- Lake Superior (Section 3.3.1.6, Page 3-430)
- Warmwater rivers (Section 3.3.1.7, Page 3-436)
- Warmwater streams (Section 3.3.1.8, Page 3-442)

Summary of Vertebrate Species of Greatest Conservation Need Associated with Aquatic Communities

18 Birds
25 Fish
11 Herptiles
6 Mammals

60 Total Species

The vertebrate Species of Greatest Conservation Need in each of these eight aquatic communities are presented in the following sections along with information on opportunities, threats, and priority conservation actions. In addition, there are several natural communities included in the Wetland Group that are closely related to the natural communities present in the Aquatic Group. Specifically, the submergent aquatic and emergent aquatic natural communities or their variants (i.e., emergent aquatic-wild rice and submergent aquatic-oligotrophic) could potentially be present in all of the aquatic communities included in this section. For that reason, the reader is encouraged to also review the emergent and submergent aquatic community

information in Section 3.3.8 (Wetland Group) when working with any of the communities found in the Aquatic Group.